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ABSTRACT

State natural resource magazines' tremendous potential as information sources and their unique economic situation led to this study of space utilization in individual issues. Three issues from each of 40 state magazines published in the summer of 1977 were divided into five subscription-rate and four staff-size categories. Category averages for each layout element were compared based on per issue percentages of space devoted to each element. Percentage computations were based on the total space potentially available for text. Three questions were posed: Do magazines with higher subscription rates have a lower percentage of text per issue than lower-rate magazines? Do subscription rates relate to the proportional amount of space taken by photography and artwork? and How does staff size relate to the use of photography and artwork? The results show: (1) the magazines with the highest subscription rates use less text space per issue than those with lower rates; (2) as subscription rates increase, there is a larger percentage of photography and artwork space used per issue; (3) a significant difference in the percentage of white space occurs among the subscription categories; and (4) magazines with large staffs allocate significantly more space per issue to artwork than magazines with smaller staffs. (FL)

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ISSUE SPACE UTILIZATION IN STATE NATURAL RESOURCE MAGAZINES

by

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

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INTRODUCTION

State natural resource magazines (conservation magazines) have been under scrutiny for decades: Schoenfeld (1949), Mahaffey (1952), the American Association of Conservation and Information Ethics and Standards Committee (1970), and Sanders (1971). Each study has dealt with these unique magazine's production and circulation economics.

Being almost totally dependent on subscription rates, license fee revenues and tax dollars for their money, each magazine has an obligation to its readers, not only journalistically but economically. Only two natural resource magazines carry any advertising. Staff members may work in other departments as well as with the magazine. The magazines lack true journalistic competitors.

Are the readers getting their money's worth since it is their money producing these magazines?

Each state's natural resources department is organized differently. Each magazine is probably funded differently. But each magazine has a purpose, an editorial policy and a look all its own. The proportions of layout elements used determine its look, its visual approach towards its audience, and may even reflect on the magazine's purpose and underlying philosophies.

State natural resources (SNR) magazines' contributions as information sources for environmental decision-making not only stems from the topics contained in these magazines (Jackson, 1952 and Latham, 1970), but as Laycock (1970) stated, "The state magazine may be the only contact the state agency has with a large percentage of the people it serves."

The combination of the magazines' tremendous potential as information sources and their unique economic situations led to this issue space utilization study.

METHODOLOGY

Four issues of each SNR magazine published in the summer of 1977 were obtained either from a University of Wisconsin-Madison library or from a mailed request to the editors. In total, 42 states were represented by 43 magazines (Pennsylvania has two magazines while the Maine magazines were not received). A few issues were not included because they were special photo or art issues. One state only sent one issue and another only two. Three issues from 40 magazines were measured, so in total 125 magazines were used.

Total page space was determined as the pages normally containing text materials. Front and back covers, inner covers (where applicable) and tables of contents were not included.

The square pica areas for all layout elements were determined. The three separate issue totals were added together and divided into the total page space. The average percentage of issue space taken by the layout elements resulted. All percentages were subtracted from 100 percent leaving the percentage of white space.

Five subscription rate categories were established. The 12 free magazines composed the first category. The only $1 magazine was grouped with the eight $2 magazines establishing the second category. Ten $3 magazines made up the third category. The smallest category contained both $4 magazines, the $3.50 magazine and the $4.50 magazine. The last category had seven $5 magazines and the only $5.25 magazine.

Staff size categories were established by grouping several sizes together. The four Categories were: 1-3 staff members; 4-5; 6-10; 11-14.

The layout element percentages for each magazine were averaged by category. These category averages were compared using one-way analysis of variance. F-ratios

were found and statistical significance determined. Newman-Keuls tests were done on siginficant F-ratio findings to determine significant differences between category means.

Staff size is an apparent economic indicator showing the importance a state places on its SNR magazine. More people involved in production gives each individual a better chance for spending more time on one task and doing a better job. The increased manpower gives a greater potential for information transfer to the readers. More research can be done, more facts and more viewpoints are available, resulting in more information.

But having a larger staff also costs more.

Subscription rates increase available money and in most cases (except self-sustaining magazines like Wisconsin's) this money has replaced advertising revenue. By increasing its circulation, and SNR magazine makes more subscription money, just as higher circulation magazines get more money from charging higher advertising rates in the regular magazine industry.

But increasing circulation also increases paper, printing, handling and mailing costs.

Magazines with different purposes are different in their layouts and design (Nelson, 1975). Differing purposes implied by staff sizes and subscription rates should be reflected in differeing percentages of layout elements.

To test this, questions about relations between subscription rates, staff sizes and varying amounts of text, photographs and artwork were developed.

Question #1: Do SNR magazines having higher subscription rates have a lower percentage of text per issue than lower rate magazines?

Question #2: Is the percentage of photographs and artwork (visual materials) higher in the more costly subscription magazines?

Question #3: Do SNR magazines with larger staffs use more space for photographs and artwork than lesser staffed magazines?

Question #4: Do lower subscription magazines produce more text per year than higher subscription magazines?

RESULTS

Question #1: The $5 magazines use significantly less text space per issue than the $2 and $3 magazines. The other subscription categories did not differ significantly. See Graphs 1 and 6.

The readers of $5 magazines are paying more for their magazine, but get less text per issue. An unanswered question arises as to whether the readers of the $5 magazines are getting more information than those readers of lower cost and free magazines. The economic factors behind a magazine having to charge $5, while others charge less or even provide a magazine free, perhaps necessitate a different approach towards its audience. Because it needs to maintain the circulation (guaranteeing the subscription revenues) or even increase circulation, a magazine charging $5 may have a different purpose and a different audience approach. Using less text allows visual layout elements more space. This approach may indirectly change the magazine's purpose.

Question #2: As subscription rates increase there is a larger percentage of photograph and artwork space per issue. See Graphs 2, 3 and 6.

The visual appeal provided by photographs and artwork, as compared with text materials, establishes different audience approaches. People like to look at pictures while they read. Scanning readers usually look at photographs and artwork while reading little text. Visual materials also provide variety. Another question arises as to whether photographs have the information potential that text does? Does good text have the universal appeal that photographs many times exhibit? Can photographs be over used?

The higher subscription magazines use a more visual approach towards their readers. Whether less text allows more visuals to be used, or more visuals reduce the text space, the results are the same. The economics could justify saying visuals appeal to a wider range of people, therefore a larger circulation and more subscription revenue results. More space needed for visuals justifies having more pages per issue (see Table 1) and in return makes the magazine thicker. This helps the reader feel he is getting his money's worth.

The lower subscription magazines have higher percentages of text than visual materials. (see Graph 6). Their text approach towards their readers coincides with having different economic situations and different purposes. Not having the constant threat of economic collapse due to falling circulation may permit the editorial staff greater opportunity for indepth coverage. The state agency maintains the necessary operating funds because the transfer of information has top priority. The readers still pay for the magazine but the lower subscription rates, especially the free magazines, remove the necessity of having to satisfy readers because they paid a subscription. The administrative influence on content might vary with subscription rates.

Differing audience approaches are also evident in the amount of white space in the various magazine categories. (see Graph 4). The free magazines use significantly more white space and the $3 magazines significantly less than the other categories. The percentage of white space may indicate the degree of legibility and resulting readership. The free magazines give the greatest importance for having easily read text. The $3 magazines use less white space, but have more text. The $2, $4 and $5 magazines have almost the same amount of white space, but the levels of text space are quite different.

Question #3: The 14-member staff category uses significantly more artwork space than the lesser staff categories. (see Graph 5).

With staff size being an apparent indicator of the importance placed on the magazine, the two magazines having 14-member staffs place a high priority on artwork, and a smaller dependence on text. No significant differences were found among staff categories in text space, photograph space or white space. The lack of a significant difference in text space raises the question of staff efficiency. Magazines having only an editor use almost as much text per issue as those having 10 staff members. Either the text is better in the larger staff magazines, or the readers of these magazines are paying salaries for staff personnel that aren't producing text. Table 2 shows that the larger staffs do produce more text annually, but not significantly more.

Another measure taken in this study was the source of articles. This was a forecast for annual article source numbers.

Table 4 shows that the number of staff written articles increase as the staff size increases. The number of standing heads (regular columns usually written by an editor or staff member) also increases as the staff size increases. Staff members produce most of their own text used in the larger staffed magazines. Readers of these magazines <u>probably</u> get "better" text because of the assets a larger staff provides, but another study would be needed to measure the "quality" of the text.

Table 4 clearly shows how the two smaller staffed categories provide text. The almost equal numbers of staff written, agency personnel, free lance and standing heads means these magazines use a more diverse mixture of article sources. It could be speculated that these magazines cannot truly regulate and develop their content because they lack manpower. They are forced to print a montage of materials because they lack sufficient staff to work on specific stories.

<u>Question #4</u>: The $3 and $5 magazines produce significantly more square feet of text per year than free magazines.

Each magazine's text space percentage was converted into square feet of text by determining the number of pages produced per year. This figure provides a better categorical look at the use of text. (see Table 1). The readers of free magazines don't get as much text annually as other readers. The $2 and $4 magazine readers get almost the same amount per year. Although the $3 and $5 magazines produce more, their annual productions aren't significantly higher. The $5 magazines' text production is reflected in the average number of pages per issue. More pages and a lower text space percentage gives a high annual result. Whereas the $3 magazines use less pages and the highest text space percentage to produce the most text. Two different ways with the same result. Being more text conscious and saving six pages per issue, the $3 magazines save a lot of their readers' money while providing them with potential information.

CONCLUSIONS

Relating the economic differences to layout and design differences in SNR magazines has shown there are corresponding differences regarding audience approach and perhaps even purpose. The visual appeal gained by using more issue space for photographs and artwork benefits the more costly magazines. People probably wouldn't pay $5 a year for a magazine that didn't have pretty pictures. At least not enough people to cover the additional expenses.

By taking a hard look at page and issue space utilization, editors can gain valuable information concerning page space efficiency. As magazine publishing costs continue to climb, the results from this study will provide a foothold from which to work. In these unique magazines that have no direct competition, no advertising or very little, and the readers directly or indirectly pay for all staff salaries and production costs, the utilization of page space is even more critical.

The most definitive factor surrounding issue space utilization is whether it is better to get more people to at least pick up and look at your magazine, or to improve the information qualities such as range and depth of topics, and readibility. Money is the limiting factor for both. SNR magazines may be spending too much time, effort and money on increasing readership while neglecting information. The true readers may not be getting his money's worth. In all cases, the expenditures of the reader's money should be the most efficient, most beneficial and utilizing issue space effectively.

This study was done to provide SNR magazine editors with information about how they use their magazines' space. Hopefully studies will be done in later years to see what changes if any have taken place.

Other areas deserving study are: funding sources influence on editorial policy and content; further study of staff duties and responsibilities; readability; and readership studies.

Magazine Categories

Subscription

Free

Alabama
Alaska
Arizona
Arkansas
Delaware
Louisiana
Massachusetts
Minnesota
Mississippi
Missouri
Oregon
Washington

$2

Kentucky
California
Iowa
Connecticut
Maryland
North Carolina
North Dakota
South Dakota
Colorado

$3

Indiana
Kansas
Montana
New Jersey
New Mexico
Oklahoma
Pennsylvania Angler
Pennsylvania Game
Tennessee
Virginia

$4

Illinois
New Hampshire
New York
Wisconsin

$5

Florida
Georgia
Michigan
Nebraska
South Carolina
Texas
West Virginia
Wyoming

Staff Size

1-3

Arkansas
1 Maryland
North Dakota

Alabama
2 Arizona
Delaware
Mississippi

4-5

Alaska
Louisiana
Minnesota
4 Washington
Iowa
South Dakota
Colorado
New Jersey
New Mexico
Tennessee

6-10

North Carolina
6 Montana
New York

8 Missouri
Kansas

14

Georgia
South Carolina

Massachusett
3 Connecticut
Wisconsin

Oregon
2 Indiana
Oklahoma
Pennsylvania Game

New Hampshire
4 Texas
West Virginia
Wyoming

Kentucky
Pennsylvania
5 Angler
Illinois
Florida

California
7 Virginia
Michigan

10 Nebraska

No Magazine

Idaho
Hawaii
Maine – none left
Nevada
Ohio
Rhode Island
Utah
Vermont

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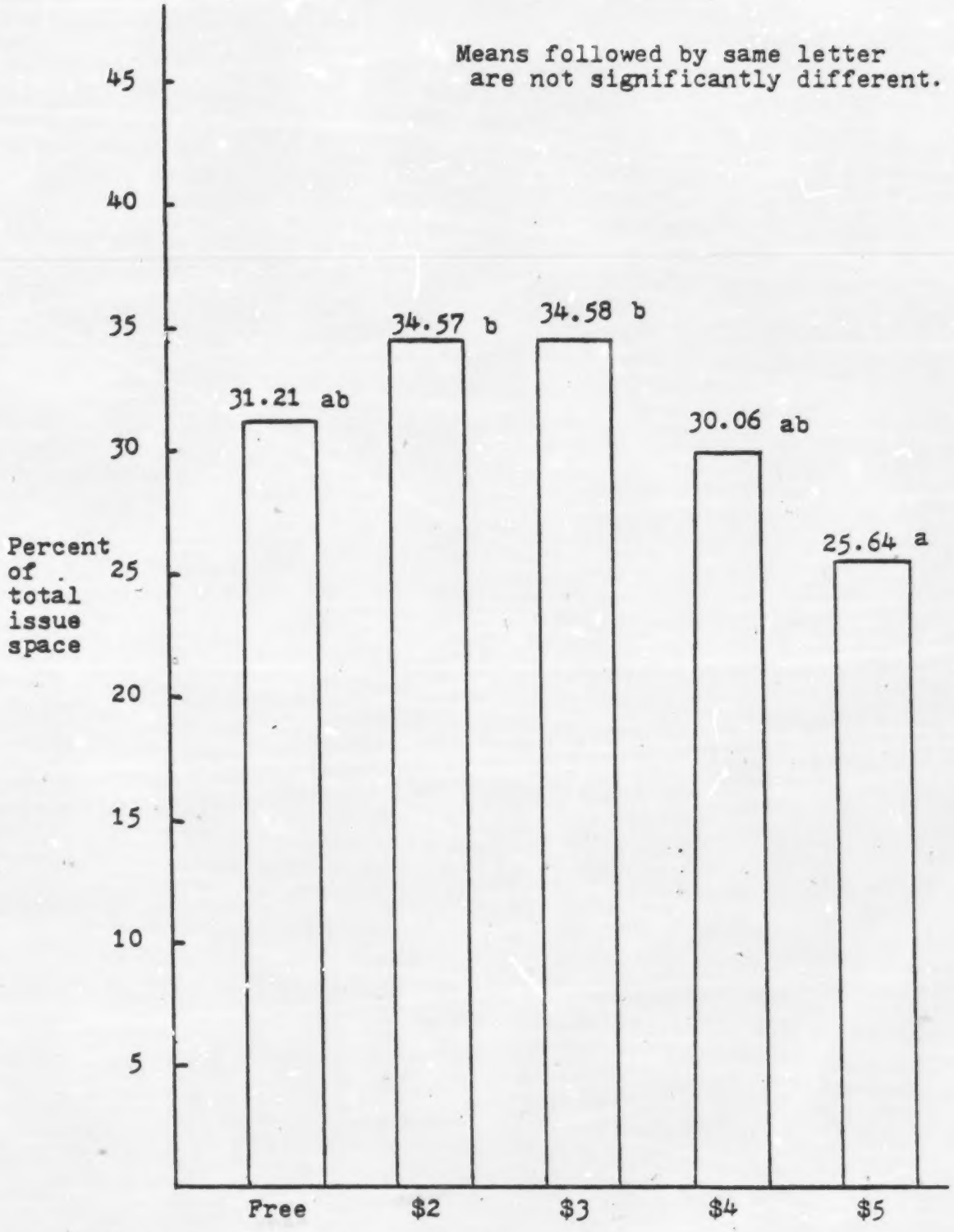
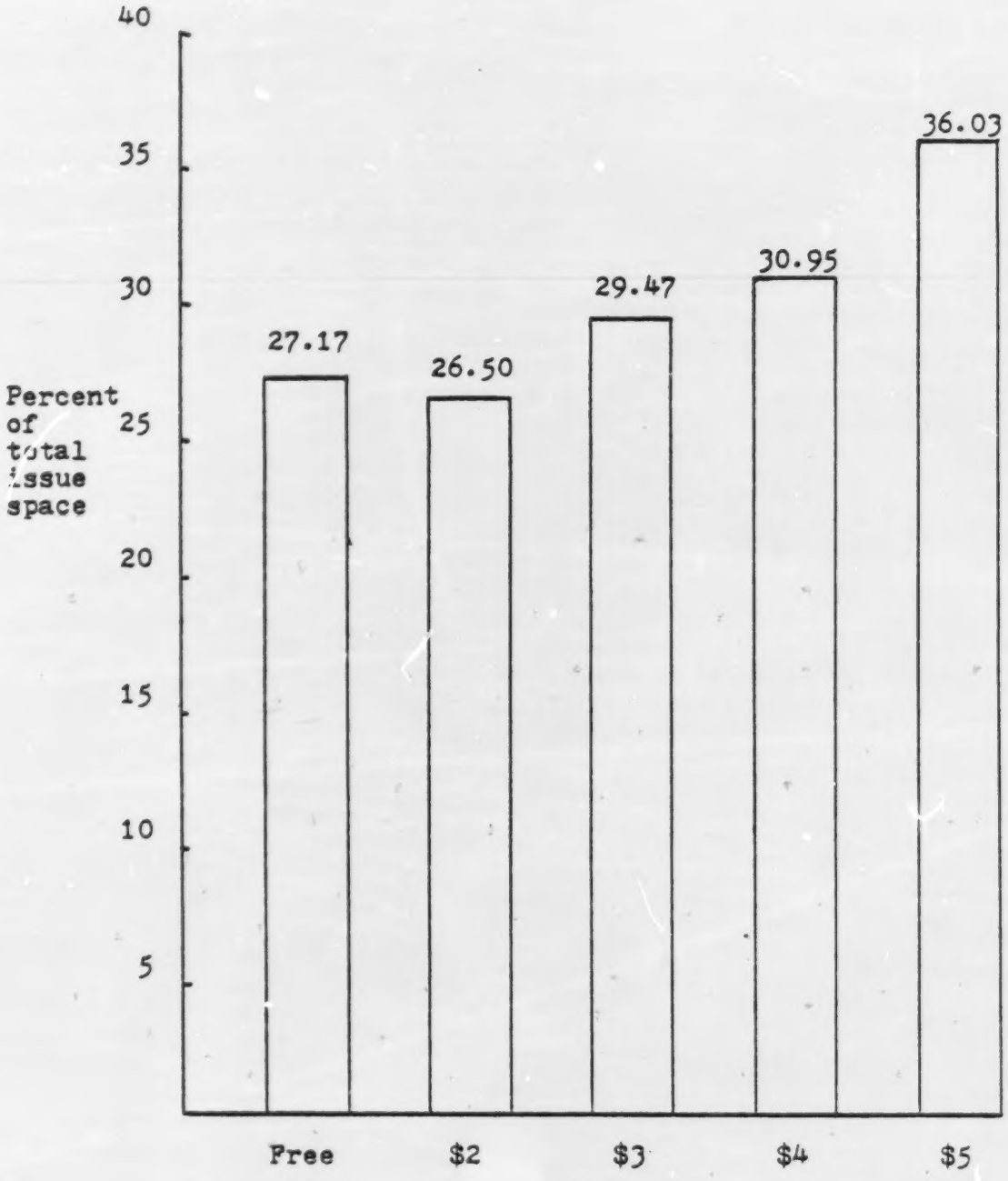
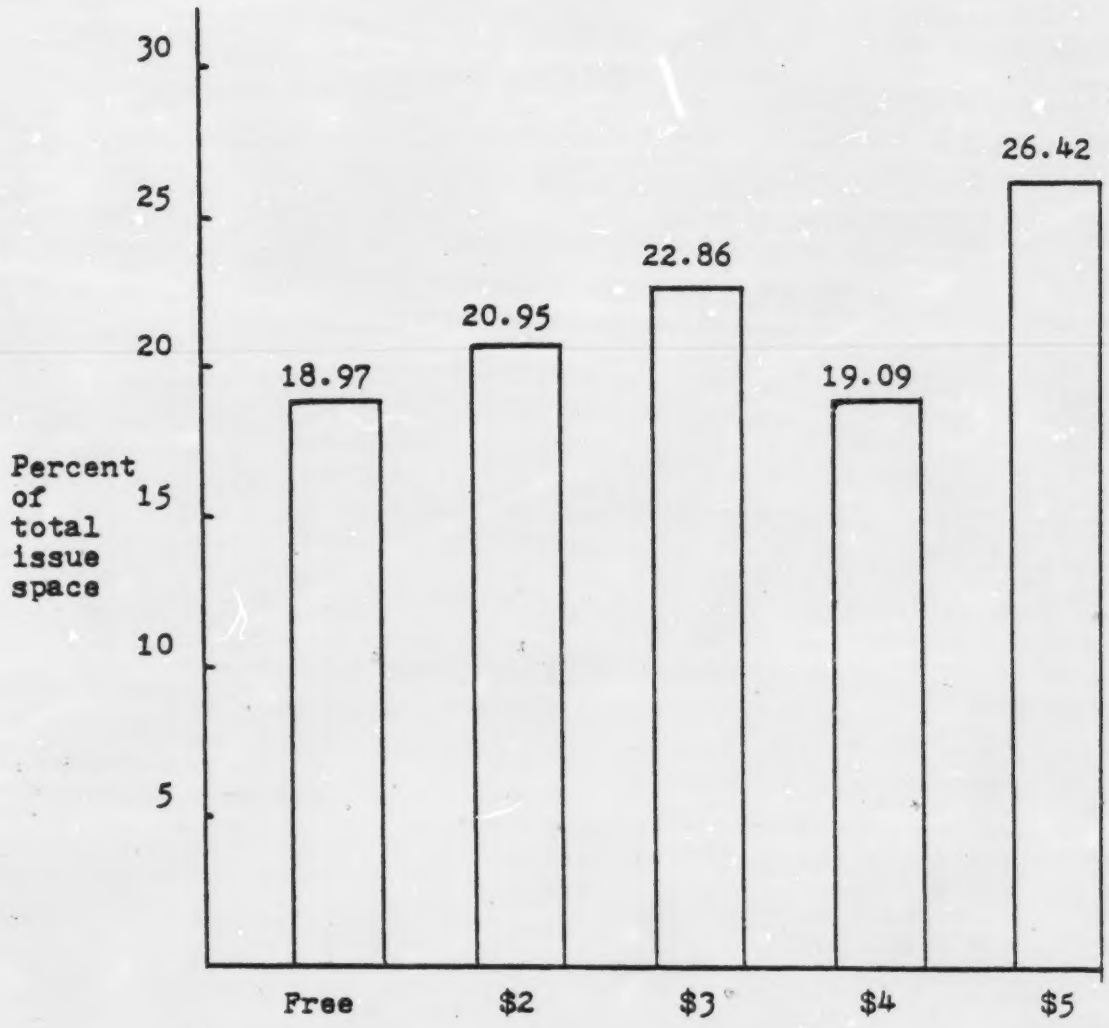


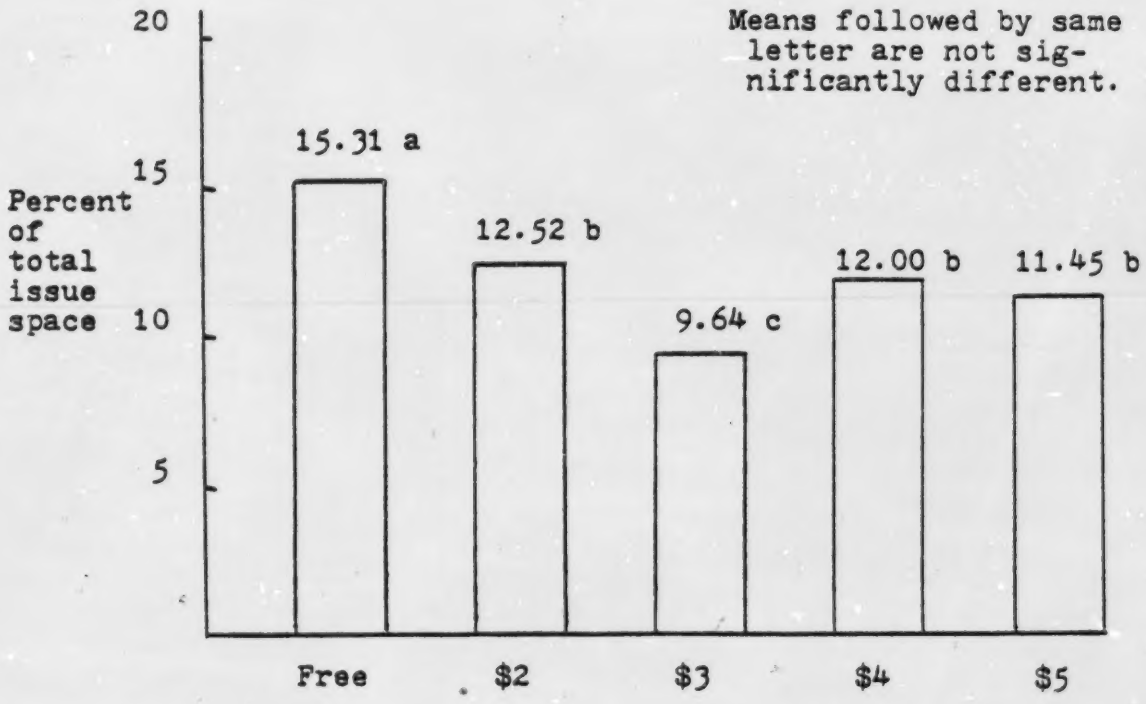
Graph 1. Comparison of subscription rates with text space.



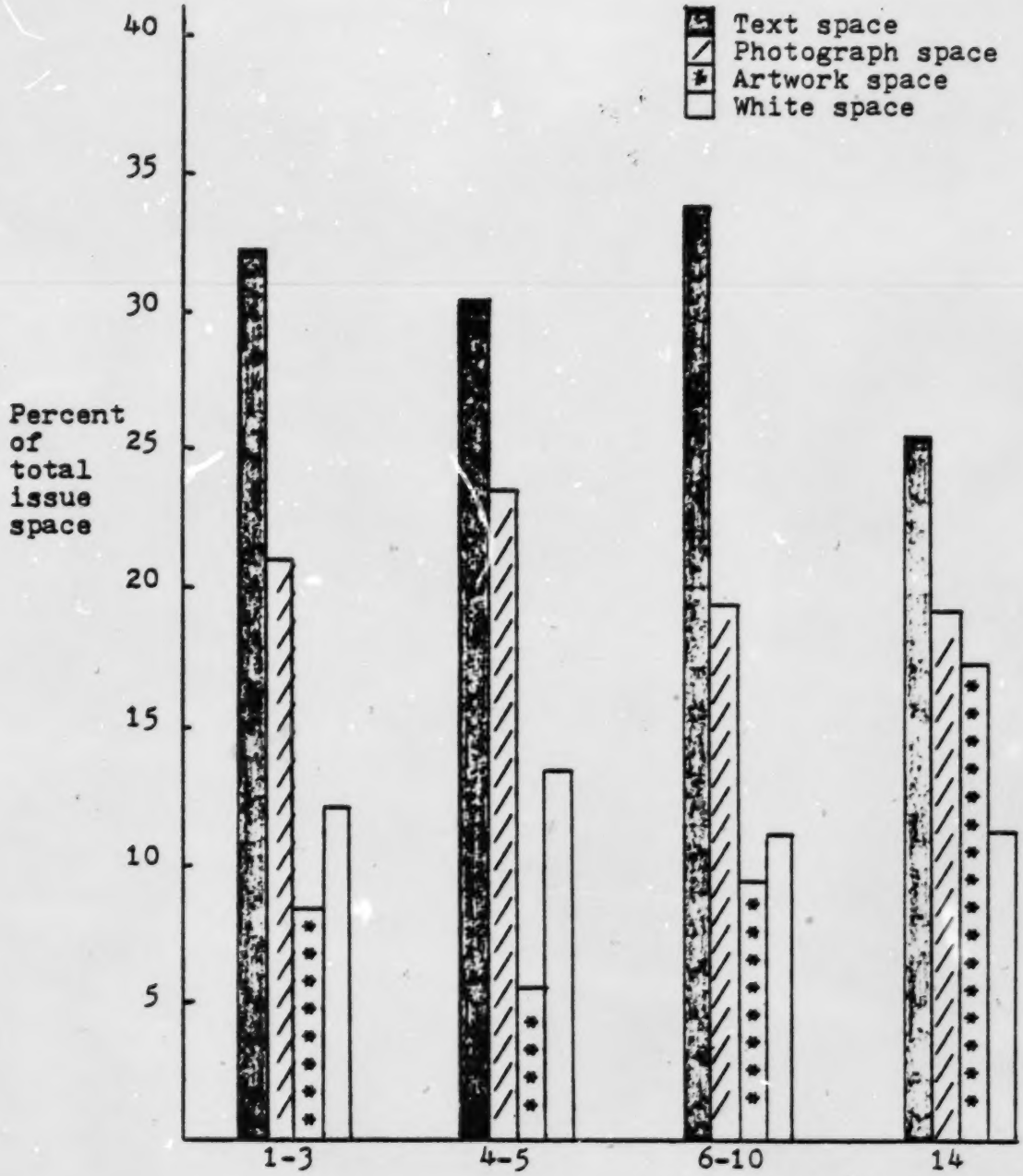
Graph 2. Comparison of subscription rates with combined photograph and artwork space.



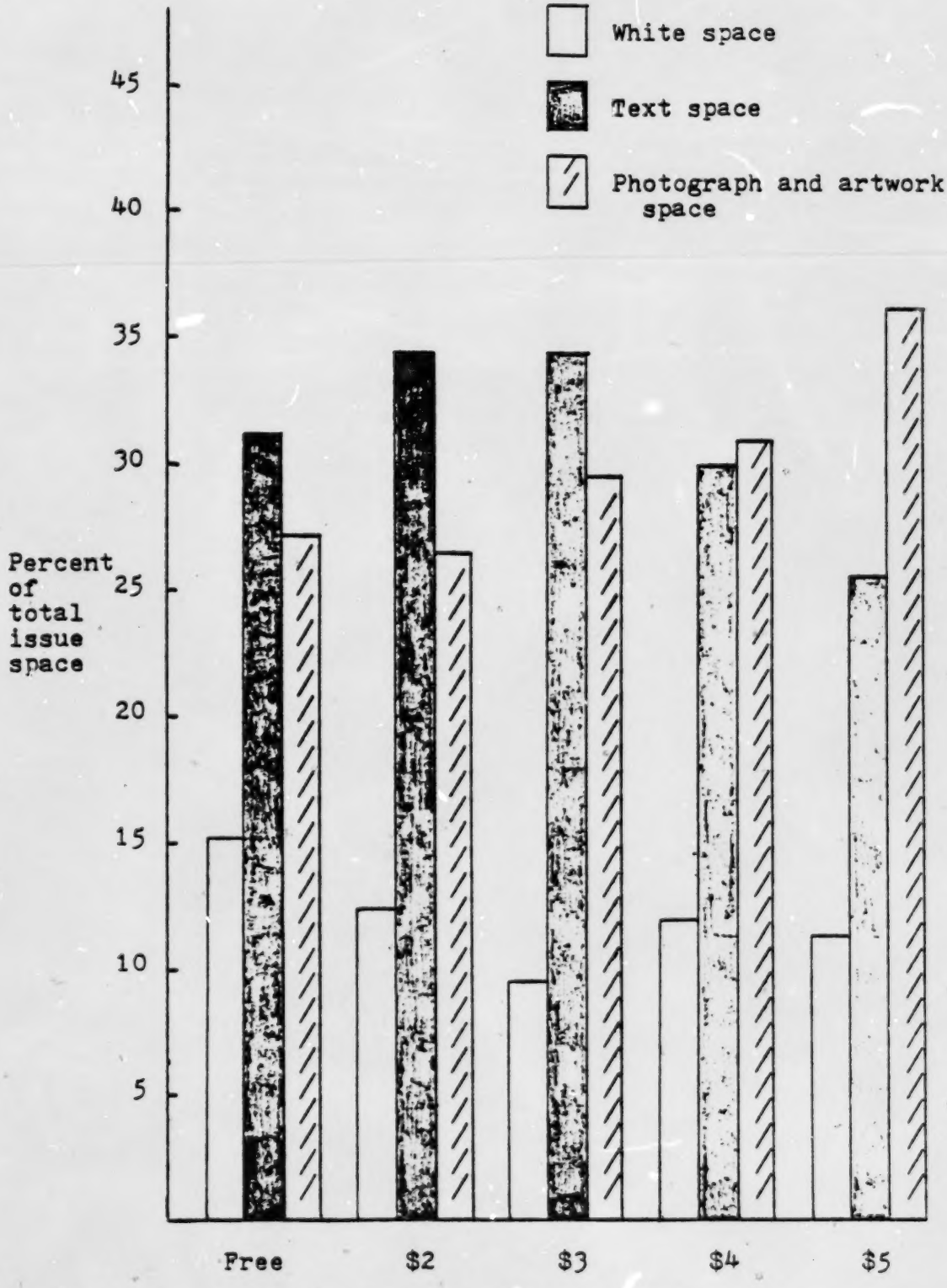
Graph 3. Comparison of subscription rates with photograph space.



Graph 4. Comparison of subscription rates with white space.



Graph 5. Comparison of staff size with text, illustrations and white space.



Graph 6. Comparison of subscription rates with issue space uses.

Table 1. Average amount of text produced per year and average number of pages per issue compared with subscription rate.

Rate Number	Free (12)	$2 (9)	$3 (10)	$4 (4)	$5 (8)	
Sq. ft. text	27.87a	43.01ab	63.81b	44.17ab	60.03b	sig.*
Pages per issue	23.87	25.68	34.62	31.02	40.33	

Table 2. Average amount of text produced per year compared with staff size.

Size Number	1-3 (14)	4-5 (18)	6-10 (9)	14 (2)	
Sq. ft. text	40.94	43.12	61.07	58.79	ns

*F ratio is significant at 2.66 with a difference of 29.36 needed for significance between groups three means apart and 31.3 for groups four means apart at .05. Means followed by same letter are not significantly different.

Table 3. Comparison of subscription rates with average space devoted to type, illustrations and blank space.

Rate Number	Free (12)	$2 (9)	$3 (10)	$4 (4)	$5 (8)	
Layout element		percentage of total space				
Text	31.21ab	34.57 b	34.58 b	30.06ab	25.64a	sig.*
Photographs	18.97	20.95	22.86	19.09	26.42	ns
Artwork	8.20	5.55	6.61	11.86	9.61	ns
White space	15.31a	12.52b	9.64c	12.00b	11.45b	sig.**

*F ratio is significant at 2.66 with a difference of 8.5 needed for significance between groups three means apart at .05. Means followed by same letter are not significantly different.
**F ratio is significant at 2.66 with a difference of 1.38 between groups needed for significance.

Table 4. Average number of article sources per year compared with staff size.

Staff size Number	1-3 (14)	4-5 (18)	6-10 (9)	14 (2)
Staff written	15.46*	14.77*	24.67	40**
Agency personnel	21.43	24.11	10.87	10
Free lance	22.07	22.22	38.44	20
Standing head	16.57	24.94	34.11	25
Total	75.53	86.04	108.09	95

* Averages do not include the results from the Arizona and Illinois magazines because they do not credit all their articles.

** Approaching significance at .05 level.